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REMARKSRejections under 35 USC 112

Claims 9 and 11 have been rejected under 35 USC 112, second paragraph, as indefinite. These claims have been amended to overcome these rejections. Claim 9 on page 3 of applicants' prior response refers back to claim 8, not to claim 9. Thus applicants submit these rejections should now be withdrawn.

Rejections under 35 USC 103

Claims 1-2 and 6-11 have been rejected over Hao et al in view of Degner et al. This rejection is respectfully traversed.

Hao et al reduced the temperature difference between a support heat sink and an electrode-heated showerhead using heat transfer members. While the heat transfer members may be thermally conductive, they are not compressible as required by the present claims. They are solid metal or dielectric parts. They are not multiple turn coils, also as required by the present claims. The Examiner points to col. 5 lines 8-52 and Figs. 4 and 4A in support of this rejection. However, the text and Figures show solid concentric rings, not the compressible coil required by the claims.

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The claimed compressible coil has several advantages not found for non-compressive, concentric rings; a compressible coil can extend all along and between the heat source and the heat sink, thereby providing a continuous and uniform heat transfer between the two. Further, by being compressible, a tight fit of the coil to the heat source and the heat sink surfaces ensures rapid and uniform heat transfer.

The Examiner now concedes that Hao et al does not disclose a compressible multiple turn coil. Thus he adds Degner et al to this rejection, referring to col. 5 line 64 to col. 7 line 12. Applicants submit the Examiner is mis-reading this reference. The passage is related to bonding together a support ring 14 to an electrode plate 12, either by brazing, soldering or employing an adhesive. This does not suggest a compressible, multiple turn coil. While the support may be in compression, that does not indicate that the support-plate is compressible. Rather, certainly when brazing or soldering is used, the joint will be non-compressible. In any event, no multiple turn coil is mentioned or suggested. Thus even when Hao et al is considered with Degner et al, the references do not suggest the presently claimed features. The Examiner states that substituting a coil

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configuration for the heat sinking of Hao et al or Degner et al would be a matter of choice. However, the references do not show or suggest such a coil, which has advantages as enumerated above. Applicants submit this rejection depends on hindsight in view of applicants' own disclosure, which has long been held to be improper.

The Examiner cites In re Dailey, which held against the inventors because they could not find any significance in the configuration suggested by the inventor and the prior art. However, in this case, applicants have reiterated the significant advantages to using a compressible, multiple turn coil as opposed to a plurality of concentric rings between two parts to be heat sunk. Thus applicants submit this reference (which also includes a vigorous dissent) is not apt with respect to the present invention.

While Hao et al may suggest copper as a useful material, which applicants concede is a well known conductive material, it simply does not disclose any kind of coil, any kind of compressible material, any kind of apparatus that will provide a multiple turn coil. The dimensions required by claim 7 for the copper wire ensures that many turns can be provided that improves

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the heat sinking, and provides improved uniformity of heat sinking. Since the present compressible coil has distinct advantages not found in the references, applicants submit these cases are not apt. A grooved heat sink, as required by claims 8-11, to accommodate the compressive coil, is not suggested by these references either.

Claims 1-14 have also been rejected as unpatentable over Herchen in view of Hao et al and further in view of Degner et al. Hao et al and Degner et al and their inadequacies have been discussed above.

Herchen discloses inserting parallel sapphire tubes into a sleeve, leaving a gap which is filled with an IR absorbing fluid; while Herchen may have addressed the problem of cooling a sapphire tube exposed to a plasma, he cools the sapphire with a coolant fluid, rather than a compressible, heat conductive multiple turn coil. Applicants submit Herchen does not suggest the present cooling or heat sinking method at all.

None of the references suggest the use of a multiple turn, compressible coil as a heat sink mechanism for cooling sapphire tubes, or anything else. The Examiner states that Hao et al shows copper coils, but applicants submit Hao et al show concentric

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rings, that are not directly connected to each other, rather than a multiple turn coil made of a single length of compressible wire as required by the present claims. The Examiner insists that using a multiple turn coil would be obvious, but none of the three references cited by the Examiner use or suggest one. Hao et al does not use a compressive coil, nor suggests one either. Applicants submit the Examiner is using hindsight, in view of applicants' own disclosure, in making this rejection. This is improper, see in re Schaeffer, 108 USPQ 326 (CCPA 1956) which holds references may not be combined indiscriminately; it must be viewed by itself to see if it fairly discloses what applicants have done. Applicants submit that is not the case here.

In view of the above amendments and discussion, applicants submit the claims as amended are in condition for allowance. Accordingly, reconsideration and allowance of the claims are respectfully solicited.

If the Examiner believes a telephone interview would advance the prosecution of this application, he is invited to contact the undersigned.

A Petition for an extension of time accompanies this

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amendment. The petition fee is charged to Deposit Account  
13-4542.

Respectfully submitted,

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